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OAK WILT IN OHIO

A Plan for Locating and Identifying the Disease

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OHIO'S oak trees are being threatened by a new fungous disease that could be a serious threat to the oak using industries of the state. The situation is serious at the present time. It is hoped that sufficient effort can be put forth quickly to prevent the oaks from being wiped out as were the chestnuts and elms of the state.

Oak wilt disease was first discovered in southern Wisconsin and northern Illinois about 1929. For a while it seemed to spread slowly but during the past three or four years its spread has been exceedingly rapid. Large devastated areas have been found in Illinois, Iowa, Missouri, Arkansas, and Indiana. During the past season infected trees have been found in Pennsylvania, West Virginia, Michigan, Tennessee, Ohio and probably other states.

Approximately 40 percent of Ohio's total forest area consists of oak trees, with nearly 65 percent of the state's southern forest area of the same species. The oaks account for nearly one-half of the annual income from forestry products in Ohio.

The results of an intensive survey in Ohio during the present summer indicate that numerous centers of oak wilt exist. The situation

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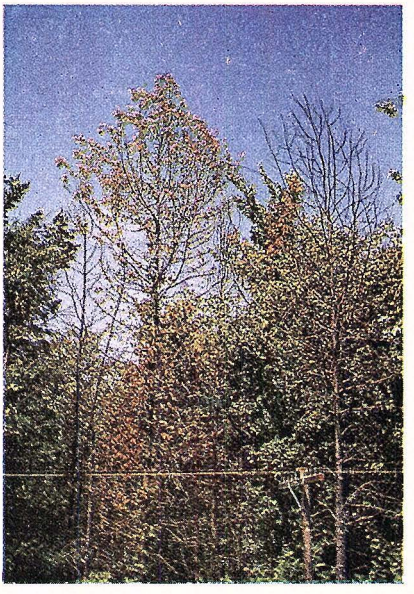

Fig. 1. OAK WILT — Mid-season symptoms

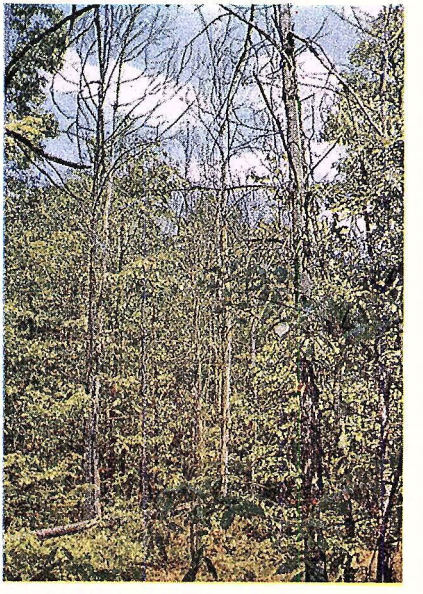

Fig. 2. OAK WILT — Early spring; no leaf symptoms

is more alarming than was expected. If progress is to be made in the control of this disease it will require the help of everyone interested in saving the oak forests and ornamental oak trees.

Cause of Oak Wilt

The disease is caused by a fungous parasite. Although discovered over 20 years ago, little is known as to how it gets into the trees or how it spreads from one locality to another. Consequently, there are no definite control measures that can be applied except to eliminate the disease centers.

The first effort, then, is to locate the trees that are diseased, so they can be removed before further spread of the disease takes place. To locate diseased trees promptly will require more help than any one group can supply. Everyone may assist in spotting diseased oak trees. The remainder of this leaflet is devoted to a description of symptoms that will be helpful in spotting infected trees.

Symptoms

The colored photographs (Figures 1 and 2) show mid-season and early spring symptoms of oak wilt on a group of oaks—red, black, scarlet, and others. In the early stages of the disease wilting and discoloring will show in the top. The disease gradually progresses downward until the

Illustrations used through the courtesy of the National Oak Wilt Committee.

entire tree is affected. The leaves first become dull or pale green, curl somewhat and turn yellow to bronze before falling. Not all of the dead leaves fall. This gives the tree a thinned-out, yellow, conspicuous appearance.

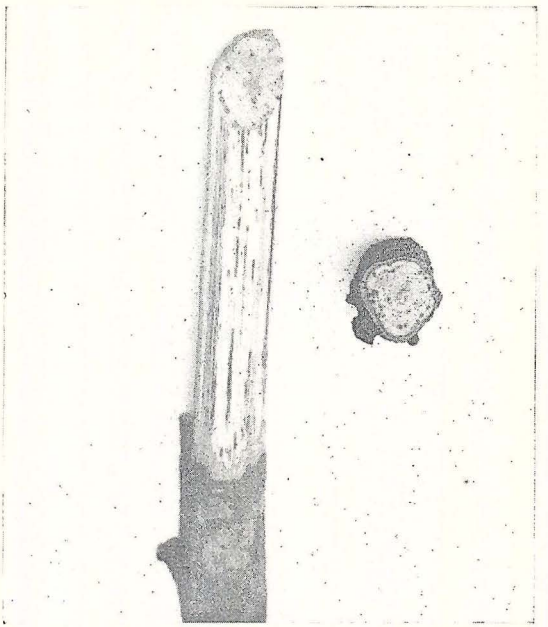

Fig. 3. Oak Wilt infected twigs showing sapwood streaking often found associated with the disease.

The appearance of a diseased tree in the white oak group is somewhat different. The whole tree does not seem to become involved the first year. In this case individual branches turn yellow but the leaves do not fall. During the following season, one or two other branches may become infected and the tree finally dies. Even after the tree seems dead, sucker growth may appear on the main trunk or larger limbs.

Internal Symptoms

Brown streaking usually occurs in the outer sapwood just beneath the bark of a diseased twig or branch (Figure 3). This can be observed by peeling back the bark or by making cross sections of the branch to expose the streaked tissues Such symptoms do not always occur, even when the disease is present. Also, other oak diseases may cause brown streaking. However, such twigs should be sent in for testing.

Identification of Diseased Oaks

There are several procedures that may be followed when a diseased tree is found. First, if possible, samples should be collected and sent to the laboratory for identification. Such specimens should be collected from wilting or recently dead branches. Six twigs or branches about 6 to 8 inches long and .5 to 1 inch in diameter are most satisfactory for diagnosis. Do not send in dead twigs. The parasite does not live long after the branch is dead. The collected material should be sent in immediately because the fungus cannot be recovered after drying. The specimens should be wrapped in newspaper or any type of material that will prevent or slow up drying. *Do not send leaves, small dead branches,*

or decayed wood or bark to the laboratory. The parasite must be alive so the laboratory can culture and definitely identify it.

The second procedure is to send in the location of the suspected or diseased tree, following which a representative of the laboratory can collect specimens for culturing. It is not important to report single dead trees, but rather to report clumps of dead trees unless death obviously has been caused by fire.

A third procedure is to report suspicious trees to the local county agricultural agent.

Regardless of the method of reporting used, the important thing is to *report any diseased oak trees.*

Specific identification of oak wilt to date has been made from specimens from the following counties: Lake, Cuyahoga, Coshocton, Knox, Hocking, Ross, Pike, Scioto, Vinton, Medina, and Muskingum.

Where To Send Specimens

A special laboratory has been set up at the Ohio Agricultural Experiment Station, Wooster, Ohio. Simply address your package: Oak Wilt Laboratory, Ohio Agricultural Experiment Station, Wooster, Ohio. Give the exact location of tree as well as your name and address, so a follow-up can be made at any time.

The task of stamping out oak wilt disease will need the assistance and cooperation of every available resource.

Publication of this pamphlet was stimulated by the results of survey work done cooperatively by the Ohio Agricultural Experiment Station, the State Department of Agriculture and the Division of Forestry of the State Department of Natural Resources.